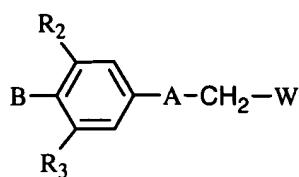


Amended Claims:

CLAIMS

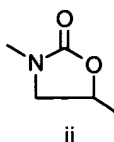
1. (Currently Amended) A compound of formula I



I

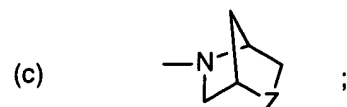
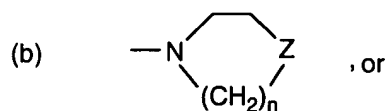
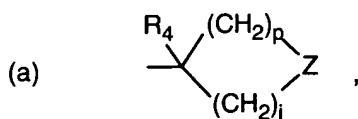
or a pharmaceutically acceptable salt thereof wherein:

A is a structure i, ii, ~~iii~~, or ~~iv~~



ii

B is



W is $\text{NHC}(=\text{X})\text{R}_1$, or $-\text{Y}-\text{het}$; X is O, or S; provided that when X is O, B is not the subsection (b);

Y is NH, O, or S;

Z is $\text{S}(=\text{O})(=\text{N}-\text{R}_5)$;

R_1 is

(a) H,

(b) NH_2 ,

- (c) $\text{NHC}_{1-4}\text{alkyl}$,
- (d) $\text{C}_{1-4}\text{alkyl}$,
- (e) $\text{C}_{2-4}\text{alkenyl}$,
- (f) $\text{OC}_{1-4}\text{alkyl}$,
- (g) $\text{SC}_{1-4}\text{alkyl}$, or
- (h) $(\text{CH}_2)_p \text{C}_{3-6}\text{cycloalkyl}$;

at each occurrence, alkyl or cycloalkyl in R_1 is optionally substituted with one or more F, Cl or CN;

R_2 and R_3 are independently H, F, Cl, methyl or ethyl;

R_4 is H, CH_3 , or F;

R_5 is

- (c) $\text{C}(=\text{O})\text{C}_{1-4}\text{alkyl}$,
- (d) $\text{C}(=\text{O})\text{OC}_{1-4}\text{alkyl}$,
- (e) $\text{C}(=\text{O})\text{NHR}_6$, or
- (f) $\text{C}(=\text{S})\text{NHR}_6$;

R_6 is H, $\text{C}_{1-4}\text{alkyl}$, or phenyl;

at each occurrence, alkyl in R_5 and R_6 is optionally substituted with one or more halo, CN, NO_2 , phenyl, C_{3-6} cycloalkyl, OR_7 , $\text{C}(=\text{O})\text{R}_7$, $\text{OC}(=\text{O})\text{R}_7$, $\text{C}(=\text{O})\text{OR}_7$, $\text{S}(=\text{O})_m\text{R}_7$, $\text{S}(=\text{O})_m\text{NR}_7\text{R}_7$, $\text{NR}_7\text{SO}_2\text{R}_7$, $\text{NR}_7\text{SO}_2\text{NR}_7\text{R}_7$, $\text{NR}_7\text{C}(=\text{O})\text{R}_7$, $\text{C}(=\text{O})\text{NR}_7\text{R}_7$, NR_7R_7 , oxo, or oxime;

R_7 is H, $\text{C}_{1-4}\text{alkyl}$, or phenyl;

at each occurrence, phenyl is optionally substituted with one or more halo, CF_3 , CH_3 , CN, NO_2 , phenyl, C_{3-6} cycloalkyl, OR_7 , $\text{C}(=\text{O})\text{R}_7$, $\text{OC}(=\text{O})\text{R}_7$, $\text{C}(=\text{O})\text{OR}_7$, $\text{S}(=\text{O})_m\text{R}_7$, $\text{S}(=\text{O})_m\text{NR}_7\text{R}_7$, $\text{NR}_7\text{SO}_2\text{R}_7$, $\text{NR}_7\text{SO}_2\text{NR}_7\text{R}_7$, $\text{NR}_7\text{C}(=\text{O})\text{R}_7$, $\text{C}(=\text{O})\text{NR}_7\text{R}_7$, or NR_7R_7 ;

het is a C-linked five- (5) membered heteroaryl ring having 1-4 heteroatoms selected from the group consisting of oxygen, sulfur, and nitrogen, or het is a C-linked six (6) membered heteroaryl ring having 1-3 nitrogen atoms;

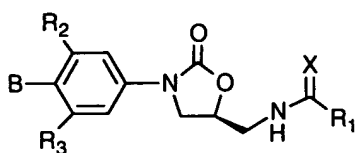
p is 0, 1, or 2;

j is 1, 2, 3, 4, or 5; provided that j and p taken together are 2, 3, 4 or 5;

m is 0, 1, or 2; and

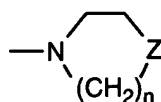
n is 2 or 3

2. A compound of claim 1 having the formula IA:



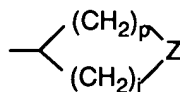
IA.

3. A compound of claim 2 wherein R₁ is C₁₋₄alkyl.
4. A compound of claim 2 wherein R₁ is ethyl.
5. A compound of claim 2 wherein R₁ is methyl.
6. A compound of claim 2 wherein R₁ is C₃₋₆cycloalkyl.
7. A compound of claim 2 wherein R₁ is cyclopropyl.
8. A compound of claim 2-7 wherein X is sulfur atom.
9. A compound of claim 2-7 wherein X oxygen atom.
10. A compound of claim 8 wherein one of R₂ and R₃ is H, the other one is F.
11. A compound of claim 9 wherein one of R₂ and R₃ is H, the other one is F.
12. A compound of claim 8 wherein R₄ is H.
13. A compound of claim 9 wherein R₄ is H.
14. A compound of claim 8 wherein structure B is



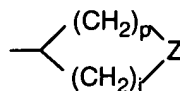
wherein Z is S(=O)(=NR₅).

16. A compound of claim 8 wherein structure B is



wherein Z is S(=O)(=NR₅)

17. A compound of claim 9 wherein structure B is



wherein Z is S(=O)(=NR₅).

22. A compound of claim 14 wherein R₅ is C(=O)C₁₋₄alkyl, C(=O)OC₁₋₄alkyl, C(=O)NH₂, or C(=O)NHC₁₋₄alkyl.

23. A compound of claim 22 wherein R₅ is C(=O)NHCH₃, or C(=O)NHCH₂CH₃.

24. A compound of claim 14 wherein R₅ is C(=O)CH₃.

25. A compound of claim 14 wherein R₅ is C(=O)OCH₃.

30. A method for treating microbial infections comprising: administering to a mammal in need thereof an effective amount of a compound of formula I as shown in claim 1.

31. The method of claim 30 wherein said compound of formula I is administered orally, parenterally, transdermally, or topically in a pharmaceutical composition.
32. The method of claim 30 wherein said compound is administered in an amount of from about 0.1 to about 100 mg/kg of body weight/day.
33. The method of claim 30 wherein said compound is administered in an amount of from about 1 to about 50 mg/kg of body weight/day.
34. A method for treating microbial infections of claim 30 wherein the infection is skin infection.
35. A method for treating microbial infections of claim 30 wherein the infection is eye infection.
36. A pharmaceutical composition comprising a compound of claim 1 and a pharmaceutically acceptable carrier.
38. A compound of claim 16 wherein R_5 is $C(=O)C_{1-4}alkyl$, $C(=O)OC_{1-4}alkyl$, $C(=O)NH_2$, or $C(=O)NHC_{1-4}alkyl$.
39. A compound of claim 38 wherein R_5 is $C(=O)NHCH_3$, or $C(=O)NHCH_2CH_3$.
40. A compound of claim 16 wherein R_5 is $C(=O)CH_3$.
41. A compound of claim 16 wherein R_5 is $C(=O)OCH_3$.

42. A compound of claim 17 wherein R₅ is C(=O)C₁₋₄alkyl, C(=O)OC₁₋₄alkyl, C(=O)NH₂, or C(=O)NHC₁₋₄alkyl.

43. A compound of claim 42 wherein R₅ is C(=O)NHCH₃, or C(=O)NHCH₂CH₃.

44. A compound of claim 17 wherein R₅ is C(=O)CH₃.

45. A compound of claim 17 wherein R₅ is C(=O)OCH₃.

46. (Currently amended) A compound of claim 2 which is

N-(((5*S*)-3-[3-fluoro-4-[1-(acetylimino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)acetamide, *Z*-isomer;

N-(((5*S*)-3-[3-fluoro-4-[1-(acetylimino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, *Z*-isomer;

N-(((5*S*)-3-[3-fluoro-4-(1-(((methylamino)carbonyl)imino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, *Z*-isomer;

N-(((5*S*)-3-[3-fluoro-4-(1-((methoxycarbonyl)imino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, *Z*-isomer;

~~N-(((5*S*)-3-[3-fluoro-4-(1-((ethoxycarbonyl)methyl)imino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, *Z*-isomer;~~

N-(((5*S*)-3-[3-fluoro-4-(1-(((4-nitrophenyl)amino)carbonyl)imino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, *Z*-isomer ;

N-(((5*S*)-3-[3-fluoro-4-[1-((aminocarbonyl)imino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, *Z*-isomer;

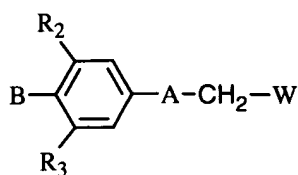
~~N-(((5*S*)-3-[3-fluoro-4-[1-((aminocarbonyl)methyl)imino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, *Z*-isomer;~~

N-(((5*S*)-3-[3-fluoro-4-(1-((methoxycarbonyl)imino)-1-oxido-1λ⁴, 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide;

N-(((5*S*)-3-[3-fluoro-4-(1-((methoxycarbonyl)imino)-1-oxido-1λ⁴, 4-thiazinan-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanecarbothioamide ;

N-(((5*S*)-3-{3-fluoro-4-[1-[(methoxycarbonyl)imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl)methyl] cyclopropanecarbothioamide, *Z*-isomer;
 N-(((5*S*)-3-{3-fluoro-4-[1-[(phenylmethoxy)carbonyl]imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl}-2-oxo-1,3-oxazolidin-5-yl)methyl)acetamide, *Z*-isomer; or
 N-(((5*S*)-3-[3-fluoro-4-(1-[(benzylamino)carbonyl]imino)-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl)-2-oxo-1,3-oxazolidin-5-yl)methyl)acetamide, *Z*-isomer.

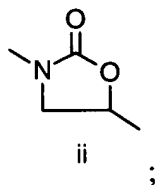
47. (Currently amended)1. A compound of formula II



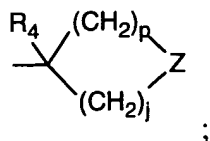
II

or a pharmaceutically acceptable salt thereof wherein:

A is a structure ii



B is

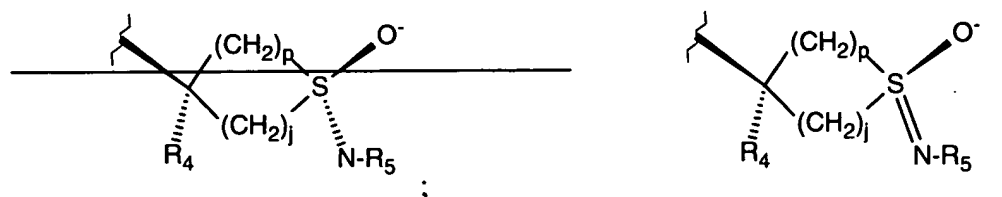


W is NHC(=X)R₁, or -Y-het;

X is O, or S;

Y is NH, O, or S;

Z is S(=O)(=N-R₅) and the B ring has the following stereochemistry



R_1 is

- (a) H,
- (b) NH_2 ,
- (c) $\text{NHC}_{1-4}\text{alkyl}$,
- (d) $\text{C}_{1-4}\text{alkyl}$,
- (e) $\text{C}_{2-4}\text{alkenyl}$,
- (f) $\text{OC}_{1-4}\text{alkyl}$,
- (g) $\text{SC}_{1-4}\text{alkyl}$, or
- (h) $(\text{CH}_2)_p \text{C}_{3-6}\text{cycloalkyl}$;

at each occurrence, alkyl or cycloalkyl in R_1 is optionally substituted with one or more F, Cl or CN;

R_2 and R_3 are independently H, F, Cl, methyl or ethyl;

R_4 is H, CH_3 , or F;

R_5 is

- (a) H,
- (b) $\text{C}_{1-4}\text{alkyl}$,
- (c) $\text{C}(=\text{O})\text{C}_{1-4}\text{alkyl}$,
- (d) $\text{C}(=\text{O})\text{OC}_{1-4}\text{alkyl}$,
- (e) $\text{C}(=\text{O})\text{NHR}_6$, or
- (f) $\text{C}(=\text{S})\text{NHR}_6$;

R_6 is H, $\text{C}_{1-4}\text{alkyl}$, or phenyl;

at each occurrence, alkyl in R_5 and R_6 is optionally substituted with one or more halo, CN, NO_2 , phenyl, $\text{C}_{3-6}\text{cycloalkyl}$, OR_7 , $\text{C}(=\text{O})\text{R}_7$, $\text{OC}(=\text{O})\text{R}_7$, $\text{C}(=\text{O})\text{OR}_7$, $\text{S}(=\text{O})_m\text{R}_7$, $\text{S}(=\text{O})_m\text{NR}_7\text{R}_7$, $\text{NR}_7\text{SO}_2\text{R}_7$, $\text{NR}_7\text{SO}_2\text{NR}_7\text{R}_7$, $\text{NR}_7\text{C}(=\text{O})\text{R}_7$, $\text{C}(=\text{O})\text{NR}_7\text{R}_7$, NR_7R_7 , oxo, or oxime;

R_7 is H, $\text{C}_{1-4}\text{alkyl}$, or phenyl;

at each occurrence, phenyl is optionally substituted with one or more halo, CF₃, CH₃, CN, NO₂, phenyl, C₃₋₆ cycloalkyl, OR₇, C(=O)R₇, OC(=O)R₇, C(=O)OR₇, S(=O)_mR₇, S(=O)_mNR₇R₇, NR₇SO₂R₇, NR₇SO₂NR₇R₇, NR₇C(=O)R₇, C(=O)NR₇R₇, or NR₇R₇;

het is a C-linked five- (5) membered heteroaryl ring having 1-4 heteroatoms selected from the group consisting of oxygen, sulfur, and nitrogen, or het is a C-linked six (6) membered heteroaryl ring having 1-3 nitrogen atoms;

p is 0, 1, or 2;

j is 1, 2, 3, 4, or 5; provided that j and p taken together are 2, 3, 4 or 5;

m is 0, 1, or 2;

and \equiv in structure iii is either a double bond or a single bond..

48. The compound of claim 47 wherein R₁ is C₁₋₄alkyl.

49. The compound of claim 47 wherein R₁ is ethyl.

50. The compound of claim 47 wherein R₁ is methyl.

51. The compound of claim 47 wherein R₁ is C₃₋₆cycloalkyl.

52. The compound of claim 47 wherein R₁ is cyclopropyl.

53. The compound of claim 47 wherein X is sulfur atom.

54. The compound of claim 47 wherein X oxygen atom.

55. The compound of claim 53 wherein one of R₂ and R₃ is H, the other one is F.

56. The compound of claim 54 wherein one of R₂ and R₃ is H, the other one is F.

57. The compound of claim 47 wherein R₅ is H.

58. The compound of claim 47 wherein R₅ is C₁₋₄alkyl, optionally substituted with OH; or C₁₋₄alkyl substituted with C(=O)NHC₁₋₄alkyl, C(=O)NH₂ or phenyl; wherein the phenyl is optionally substituted with OH, methyl, NO₂, CF₃, or CN.
59. The compound of claim 47 wherein R₅ is CH₃, or ethyl.
60. The compound of claim 47 wherein R₅ is C₁₋₄alkyl substituted with phenyl wherein the phenyl is optionally substituted with NO₂.
61. The compound of claim 47 wherein R₅ is C(=O)C₁₋₄alkyl, C(=O)OC₁₋₄alkyl, C(=O)NH₂, or C(=O)NHC₁₋₄alkyl.
62. The compound of claim 47 wherein R₅ is C(=O)NHCH₃, or C(=O)NHCH₂CH₃.
63. The compound of claim 47 wherein R₅ is C(=O)CH₃.
64. The compound of claim 47 wherein R₅ is C(=O)OCH₃.
65. A compound of claim 47 which is
N-((5*S*)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)acetamide (Z)-isomer;
N-((5*S*)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)ethanethioamide (Z)-isomer;
N-((5*S*)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide (Z)-isomer;
N-((5*S*)-3-[3-fluoro-4-(1-imino-1-oxidohexahydro-1λ⁴-thiopyran-4-yl)phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanethioamide (Z)-isomer;
N-((5*S*)-3-[3-fluoro-4-[1-(acetylimino)-1-oxidohexahydro-1λ⁴-thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)acetamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-(methylimino)-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-(acetylmino)-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-(ethylimino)-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-[(phenylmethyl)imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-[(3-phenylpropyl)imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-(1-[[[(methylamino)carbonyl]imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-(1-[[[(methoxycarbonyl)imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-(1-[[[(ethoxycarbonyl)methyl]imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-(1-[[[(4-nitrophenyl)amino]carbonyl]imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer ;

N-((5*S*)-3-[3-fluoro-4-[1-[(aminocarbonyl)imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-[[[(aminocarbonyl)methyl]imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-[(2-hydroxyethyl)imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)propanethioamide, Z-isomer;

N-((5*S*)-3-[3-fluoro-4-[1-(methylimino)-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanecarbothioamide, Z-isomer;

N-(((5*S*)-3-[3-fluoro-4-[1-[(methoxycarbonyl)imino]-1-oxidohexahydro-1 λ^4 -thiopyran-4-yl]phenyl]-2-oxo-1,3-oxazolidin-5-yl)methyl)cyclopropanecarbothioamide, Z-isomer;